

AST251 Project 3 – Evaluating Claims of Extraterrestrial Messaging yildiza2 Planet 1

Tuesday 4th July, 2079

We have identified what may be an indication of extraterrestrial intelligence, as well as the planet where it may have originated. This document summarizes the information gathered so far about the candidate message and its candidate planet of origin.

Potential evidence for extraterrestrial intelligence

Astronomers have detected a broadband radio transmission that appears to have originated from this planet's solar system. The transmission is believed to contain an image and is displayed below with the most likely aspect ratio. The transmission is continuous and does not repeat itself frequently. An excerpt of the transmission is shown below:

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001000000010010100110110010010111111010110010000001011001  
011000100110011010101001101110000001011010000111000101101  
101110100001100001011000011000010101100100100110001110000  
110000010110000001101011101001111010111011111001101000100  
111100010110010100001110010001000000011010011101001111110  
010100000100111001101011100101101110010010000000011010011  
011011001110111001111011101010111011100011010111001101011  
00101000001001111111101001011100111001011111010111010101  
011100011100101000111101001100110010001101010011010000110
```

This signal was first noticed at UTC 2079-04-15/21:27.

Parameters of the candidate planet of origin and its host star

Spectral Type	M
Stellar Luminosity (Solar Units)	0.000549
Stellar Mass (Solar Masses)	0.119
Distance to Star (lightyears)	7.8
Planet Mass (Earth masses)	1.6
Atmospheric Pressure (atm)	4.1

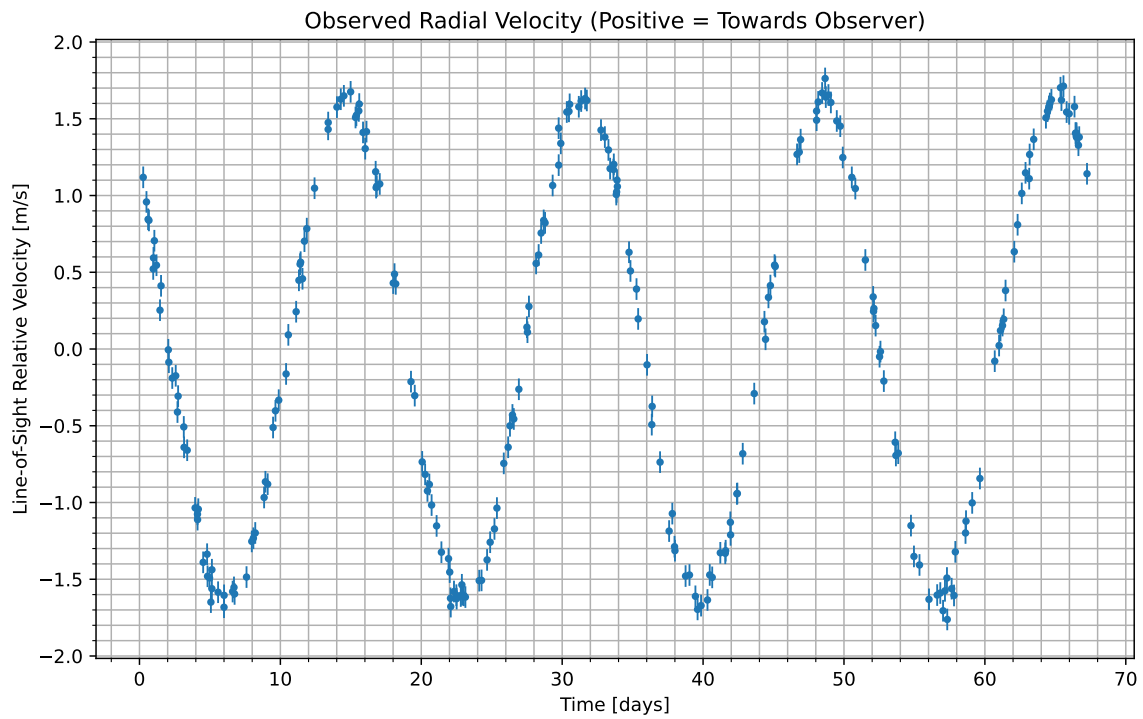


Figure 1: We have isolated the radial velocity of the host star due to the candidate planet. Data begins at UTC 2079-04-17/08:37. Positive values indicate the velocity at which the star is moving towards us; negative indicate the velocity at which it is moving away.

Atmospheric composition of the candidate planet (percent by volume)

Molecule	Concentration
N_2	45.1
CO_2	48.4
H_2O	6.5

Gas Abundance (percent by volume)

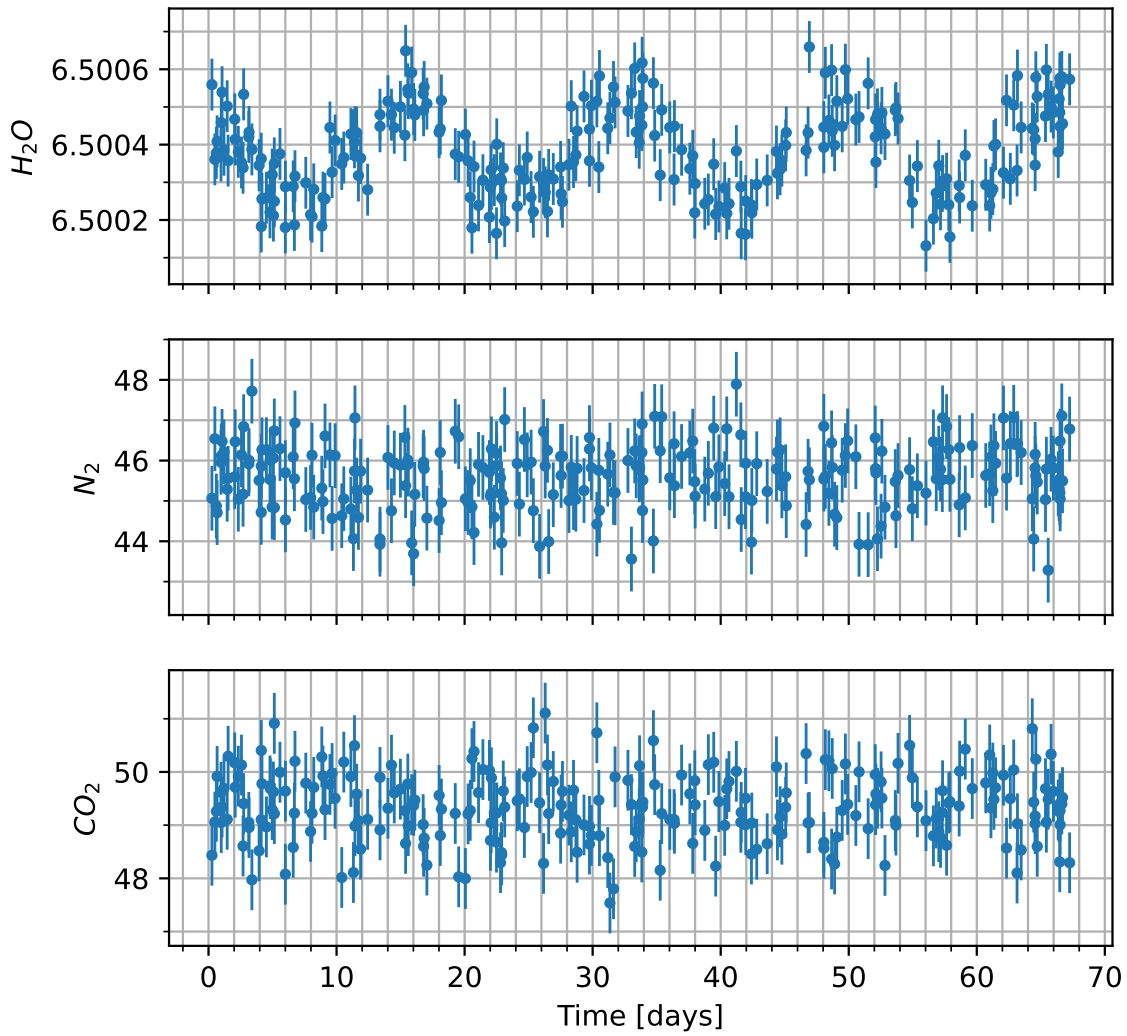


Figure 2: Concentration of various gases in the atmosphere of the candidate planet versus time. Note that the y-axis will usually only show the variation multiplied by some factor, shown in the upper left, and then added to some normal amount, also in the upper-left.

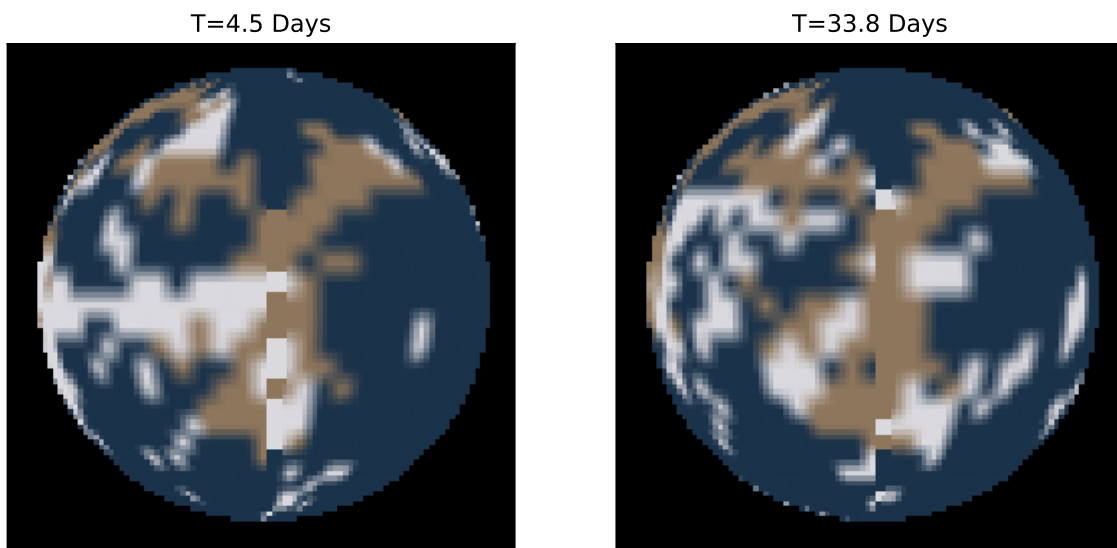


Figure 3: Maps of the surface of the candidate planet taken at two different times. Times are indicated above each image relative to the times shown in the radial velocity curve. Those maps are shown here. Tan areas indicate what we believe to be land, while blue-ish areas indicate what we believe to be liquid regions of some kind. Other colors present reflect the visible color as best as we are able to measure.